Response to Comments
Fidelity Exploration and Production Company
MPDES Permit # MT0030457

On April 27, 2005 the Department issued public notice MT-05-05, stating the Department's intent to issue a wastewater discharge permit to Fidelity Exploration and Production Company. The notice stated that the Department had prepared a draft permit, fact sheet, and environmental assessment and would hold two public hearings on this matter.

Public hearings were conducted on May 31, 2005 at the Bicentennial Library in Colstrip, MT and at the Blessed Sacrament Catholic Church in Lame Deer, MT on June 1, 2005. The notice required that all substantive comments must be received or postmarked by June 10, 2005, to be considered in formulation of a final determination and issuance of the permit. The normal 30-day comment period was extended by 15 days, because of requests made to the Department. In accordance with ARM 17.30.1374, transcripts of the public hearings have been prepared and are included in the administrative file. The Department has considered these comments in preparation of the final permit and decision.

The following tables identify individuals supplying written or oral comments on this permit.

Table 1- List of Persons submitting comments

No.	Commentor – MT0030457
1	Fidelity Exploration - Michael Bergstrom
2	Eric Olsen
3	Tom Emmons
4	Janet Rice
5	Larry Woolston
6	Shiloh Small
7	Tami McCullough
8	A.L. and Betty Collins
9	Brenda Lindlief Hall
10	Glenn Gay
11	Mr. & Mrs. Lester Aye
12	NPRC – Michael Reisner
13	IPAMS – Marc W Smith
14	MEIC – Jeff Barber
15	EB Ranch – Dick/Connie Wilson
16	Rosebud Conservation District - Jim Rogers
17	Affidavit/Northern Cheyenne Tribal Members
18	EPA – John Wardell
19	Fidelity Exploration – Michael Bergstrom
20	Brenda Lindlief Hall – Reynolds, Motl, & Sherwood
21	NPRC - Mark Fix,
22	DNRC – Jack Stults
23	Northern Cheyenne Tribe -Eugene LittleCoyote
24	Northern Cheyenne Tribe –Conrad Fisher
25	Huber Energy – William W DeLapp

26	**USFWS-R Mark Wilson**
27	**State of Wyoming- John Corra**
28	**Mark Fix, (NPRC)**
29	**Ray Muggli, (NPRC)**
30	**Roger Muggli, (T&YID)**
31	**Connie Morris, (Area Ranching Family)**
32	**Rick Rice, (Area Ranching Family)**
33	**Calvin Rice, (CFRD)**
34	**Bill Schafer, (Schafer LTD)**
35	**Mike Bergstrom, (Fidelity)**
36	**Randy Shannon, (Area Ranching Family)**
37	**Carol Red Cherries**
38	**Adeline Fox**
39	**Lavando Fisher**
40	**Lucille Spear**
41	**Bill Schafer**
42	**Joe Walksalong, Jr.**
43	**Patricia Ramos**
44	**Misty Pipe**
45	**Micciah Birdinground**
46	**Gail Small**
47	**Marcella Hart Sitting Man**
48	**Bisco Spotted Wolf**
49	**Jason Whiteman, Sr.**
50	**Linwood Tall Bull**
51	**Edwin Standing Elk**
52	**Elsie Standing Elk Wick**
53	**Art Hayes, Jr.**
54	**Lafe Haugen**
55	**Joe Fox, Jr.**
56	**Fred Small**
57	**William Walksalong**
58	**Mark Roundstone**
59	**Robert McClean, Jr.**
60	**Steve Brady, Jr.**
61	**Alvina White Bird**
62	**Judy Spang**
63	**Catherine Shoulder Blade**

Response to Comments: MPDES Permit MT0030457

1. Comment: Commenter states the fact sheet (FS) incorrectly characterizes the Ninth Circuit court opinion in NPRC v. Fidelity. The commenter adds, that the court's opinion held produced water was deemed a pollutant, it did not address discharges to stock ponds nor define stock ponds state waters. (1,19)

Response: The fact sheet will be modified to delete reference to stock ponds in the discussion of the Ninth Circuit opinion. The Montana Water Quality Act defines state waters as any body or water,

irrigation system, or drainage system [75-5-103(29) MCA], and prohibits the discharge of wastes into state waters without a current permit [75-5-605(c)MCA].

2. Comment: Commenter requests clarification to statements made in the FS (Part II (a.)), concerning the discharges from impoundments "is" or "would be" a violation to permit conditions. (1,19)

Response: Language in the FS will be modified to "would be".

3. Comment: Commenter questions the validity of the Department's inclusion of impoundments as part of the "treatment system". (1,13,19,21)

Response: We agree that any impoundment containing water that is not discharged to the Tongue River under this permit is not part of the "treatment system". However, any impoundment containing water that will be discharged to the Tongue River under this permit is considered part of the "treatment works" as defined in 75-5-103(33), MCA.

4. Comment: Commenter requested additional clarification and regulatory authority for including off-channel impoundments for storage of produced water to include siting requirements (GWMP). Other commenters requested these impoundments be identified as point source discharges to waters of the state. As state waters, standards adopted to protect water use classifications must be applied. (1,12,23,19,21)

Response: The Department may require a source exempt from the permit requirements to conduct monitoring if the source "is likely to cause violations of ground water quality standards",[75-5-401(5)(e) MCA]. Based upon the known quality of CBNG water that will be stored in the impoundments, DEQ has determined that seepage from the impoundments will likely cause violations of ground water quality standards. Montana ground water standards designate irrigation as a beneficial use of Class I, II, and III groundwater [ARM 17.30.1006]. ARM 17.30.1006(2) states that the Department may use any pertinent credible information to determine levels that will render the water harmful, detrimental, or injurious to the beneficial uses listed for the applicable class of waters. The Department considered the level of quality defined by the board to protect water uses for irrigation [ARM 17.30.670] as credible information. Therefore, DEQ has authority to require monitoring under 75-5-401(7), MCA.

Most of the impoundments used by Fidelity for storing CBNG waters will not discharge to surface waters. In situations where water in an impoundment is routed to a discharge point, such as waters in Reservoir 34E-3490, than the discharge point to the Tongue River will be the "point source" discharge for purpose of the permit, not the impoundment itself. In situations where the impoundment water seeps into ground water, no ground water permit is required regardless of whether or not the impoundment is considered a "point source".

DEQ also disagrees that the impoundments should be considered "state waters". Since the impoundments are used "solely for treating, transporting or impounding pollutants", the impoundments are exempt from the definition of state waters pursuant to §75-5-103(29)(b)(i), MCA. Any incidental use of CBNG waters by livestock or wildlife does not eliminate the sole purpose of the impoundment, which is to store CBNG waters.

5. Comment: Several commenters expressed that the GW Monitoring Plan is excessive, redundant, and beyond the regulatory authority of the Department. Other commenters express concerns over establishing baseline GW characterization prior to impoundments being constructed, with additional mitigation measures. (1,9,12,13,16,19,23,42,44,49,56,57,58)

Response: DEQ believes that monitoring is necessary and justified under §75-5-401(5) MCA. Baseline data is necessary for purposes of comparing and identifying impacts to existing water quality.

Corrective actions as set out in the plan and/or mitigation measures as set forth by the DNRC for the controlled ground water area for wells or springs may be necessary over the active life of the impoundments should leakage/infiltration occur and the aquifer(s) are adversely impacted as a result of CBNG production water impoundments.

6. Comment: Several commenters discussed the status of the TMDL for the Tongue River, not only at the discharge point, but throughout the entire reach of the river. Other commenters question the "new source, new discharger" status under the order issued in the lawsuit Friends of the Wild Swan v. U.S. EPA. et al., CV 97-35-M-DWM, District of Montana, Missoula Division. (1,12,13,19,21,22,23)

Response: The DEQ believes that issuing the permit is not prohibited by the court order because under the 1996 list, no TMDLs are necessary for the segment where the discharge occurs. Although the segment was listed in 1996 as impaired due to flow alteration, the EPA has since determined that no TMDLs are necessary for segments impaired by "pollution". According to EPA, TMDLs are only required for "pollutants". Since flow alteration is considered "pollution" and not a "pollutant", no TMDLs are necessary prior to issuing the permit.

7. Comment: Commenter requested re-evaluation of seasonal temperature limits using seasonally derived effluent data. (1,19)

Response: Re-evaluation of the reasonable potential calculation for seasonal temperature influences has been accomplished. Based on the seasonal average temperature (March- June, 61.8 deg F, July –October, 64.8 deg F, and November –February, 59.4 deg F) no change in the reasonable potential was realized. Temperature still limits flow during these time periods.

The Department will change the TMDL table (Appendix V) to reflect the following seasonal values. The TMDL table will reflect season changes identified in this comment and modified by flow rates in the March through June period. WLA for the following seasons will be inserted based on 5.31 cfs: March – June: Heat Load $1.74X10^9$ BTU based on 61.8 deg F. Sodium 14,195 lb/day, TDS 36,234 lb/day, Ammonia 51.2 lb/day, and Fluoride 78.4 lb/day. No other changes will be required.

8. Comment: Comments were received questioning whether a point source TMDL for sodium is applicable. Commenter states no standards exist that require limits or a WLA for this parameter. Another commenter questions the allowable amount of salts to be discharged into the receiving water. (1,19,53)

Response: In the evaluation of the receiving water flow and chemistry, several relationships have been established. First, it is well documented the relationship between instream flow and concentrations of pollutants of concern (POC). This relationship has not changed with CBNG development in the recent past. The other relationship that has been identified is that the parameters that constitute SAR (calcium, magnesium, and sodium), can be modeled with a high level of confidence. Using baseline data, the correlation coefficient between SAR and sodium is 0.9912, with a linear function. Sodium can be used as a surrogate for SAR in determining discharge loads to the river.

The WLA established in the FS reflects anticipated concentrations of sodium instream after complete mixing. The load is calculated at maximum allowable effluent flows, at anticipated seasonal water chemistry.

9. Comment: Commenter states the low flow monitoring and discharge limitations are too restrictive. Commenter requests effluent flows to be allowed to recommence, once instream EC and SAR levels recede below the seasonal standards during low flow events. (1,19)

Response: The Department implemented the low flow monitoring and discharge limits to protect the beneficial uses of the receiving water. The rationale being, the receiving water is most susceptible to exceedances of standards during low flow events. The Department has made allowances to allow discharges during low flow conditions without becoming unreasonable in the approach. The Department will retain the requirements contained in the discharge flow management plan.

10. Comment: Commenters state that by issuing permits without TBEL or BPJ limits it is in violation of CWA, the state constitution, and WQA. DEQ has violated the federal Clean Water Act (CWA) and the Montana Water Quality Act by failing to develop and require technology-based permit limits for all parameters of concern using its Best Professional Judgment (BPJ). According to this commentor, 40 CFR §§ 122.44 and 125.3, which are incorporated by reference in the MPDES rules, require DEQ to develop technology-based treatment requirements on a case-by-case basis under § 402(a)(1) of the CWA in the absence of EPA-promulgated effluent limitations. The commentor cites various federal cases in support of using BPJ, including *Trustees for Alaska v. EPA*, 749 F.2d 549, 553 (9th Cir. 1984); *NRDC v. EPA*, 863 F.2d 1420, 1424 (9th Cir. 1988); and *Texas Oil & Gas Ass'n v. EPA*, 161 F.3d 923 (5th Cir. 1998). (12,20,28,30,46,49)

Response: DEQ disagrees that it has violated the CWA and the Montana Water Quality Act by declining to develop and require technology-based effluent limits for all parameters of concern using BPJ. Neither the federal rules nor the cases cited by the commentor mandate the development of technology-based effluent limits on a case-by-case basis.

According to 40 CFR § 122.44, "each NPDES permit shall include conditions meeting the following requirements *when applicable*." Among the conditions required by the rule "when applicable" are technology-based effluent limits promulgated by EPA or effluent limitations developed on a case-by-case basis under § 402(a)(1) of the CWA or a combination of the two according to the factors in § 125.3. Since there are no EPA-promulgated effluent limitations for coal bed methane produced water, the commentor argues that DEQ must develop technology-based standards using BPJ under § 402(a)(1) of the CWA based upon the factors in § 125.3(c),(d). This comment ignores the fact that technology-based limitations listed under § 122.44 are required for NPDES permits only "when applicable." It is the DEQ's position that developing BPJ under § 402(a)(1) of the CWA is not applicable, because that section of the CWA authorizes EPA, not the states, to develop case-by-case permit limits.

Under § 402(a)(1) of the CWA, NPDES permits may be issued provided that either of the following conditions are met: "(A) all applicable requirements promulgated under sections 1311, 1312, 1316, 1317, 1343 of [the Act]; or (B) prior to the taking of necessary implementing actions relating to such requirements, *such conditions as the Administrator determines are necessary* to carry out the provisions of [the Act]." (emphasis added).

In construing this provision, the Ninth Circuit has *not* held that § 402(a)(1) mandates the development of case-by-case effluent limitations by the states, as argued by the commentor. Instead, the Ninth Circuit has

interpreted the language as "authorizing" EPA to use its "discretion" to develop technology-based effluent limits in the absence of promulgated industry-wide standards. *See*, *Trustees for Alaska*, 749 F.2d at 553; *NRDC*, 865 F.2d at 1425. Nothing in the cases cited by the commentor suggests or implies that § 402(a)(1)(B) also authorizes the states to develop effluent limitations for individual permits. Although the commentor quotes a Fifth Circuit opinion indicating that all NPDES permits *must* incorporate technology-based limitations developed under § 402(a)(1)(B), that case involved a challenge to BAT limitations developed by EPA for a class of industry under § 301. Accordingly the quoted language is dicta since the issue of whether or not the CWA requires EPA or the states to develop case-by-case effluent limitations was not before the court. *Texas Oil and Gas Ass'n*, 161 F.3d at 928.

The DEQ's position that § 402 does not mandate states to develop technology-based limitations is supported by the U.S. Supreme Court's construction of the CWA in *E.I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112 (1977). In *Train*, the petitioners argued that EPA had no authority to promulgate industry-wide treatment standards under § 301 of the CWA. In their view, the provisions of § 301 are to be used by states in the development of technology-based standards on a case-by-case basis for individual permits. In upholding EPA's authority to promulgate nation-wide standards under § 301, the Court rejected the argument that § 402 requires states to develop technology-based effluent limits for individual permits. The Court found that, while § 402 requires permits to comply with §301, "[§ 402] does not mandate either the Administrator or the States to use permits as the method of prescribing effluent limitations." *Id.* at 120.

Since the CWA does not mandate states to develop technology-based limits for individual permits according to the cases cited above, the DEQ does not agree that it has violated the CWA or Montana's Water Quality Act by declining to do so.

Reinjection of produced water from CBM development is not a requirement of the Montana Water Quality Act or federal effluent limits guideline.

11. Comment: ARM 17.30.1311(7) and its counterpart under the CWA, 40 CFR §122.41(i), prohibit MDEQ from issuing a permit to a new source or new discharger if the discharge from its operation will cause or contribute to the violation of water quality standards. The lower reaches of the Tongue River frequently violate the numeric water quality standards for EC. Any additional discharges of untreated methane wastewater are likely to cause or contribute to these violations or increase the frequency of such violations. MDEQ has failed to provide any analysis why the prohibition is not applicable to the two draft permits (12,21,22).

Response: The commenter by citing ARM 17.30.1311(7) is referring to new sources or new discharger proposing to discharge into a *segment* that will cause or contribute to a violation of water quality standards (emphasis added). In the permit development the analysis evaluated the stream segment the proposed discharge reports to. The analysis verified that in that segment, water quality standards were not exceeded at the edge of the mixing zone or immediately down stream from the project area. In addition, the analysis demonstrated there were sufficient pollutant load allocations available in the receiving water, within the segment the discharges report to [ARM 17.30.1311(7)(a)]. The commenter wrongly asserts that receiving water quality outside the stream segment should drive permit development.

Since the public notice of the tentative decision to issue discharge permits to Fidelity, the Department has determined the lower segment of the Tongue River is impaired for salinity. To ensure that the mean monthly and instantaneous maximum standards adopted by the board for EC and SAR are not exceeded,

the Department conducted additional analysis of the receiving water at Miles City. The following is a summary of the analysis conducted on the Tongue River at Miles City.

EC**:** Background monthly mean EC concentrations at Miles City varied from 671 to 1,069 uS/cm. In the month of May the background monthly mean EC concentration of 1,004 uS/cm exceeded the Montana monthly mean standard of 1,000 uS/cm. The instantaneous maximum EC concentration in the current background data set varied seasonally and ranged from 1,071 to 1,458 uS/cm, which does not exceed the Montana standard of 1,500 uS/cm.

However, the irrigation season monthly mean standard of 1,000 uS/cm was exceeded as a result of the discharge of untreated CBNG produced water, for the months of April and May. Instream concentrations equaled 1,026 and 1,034 uS/cm respectively. In both instances the background water quality concentrations neared or exceeded the monthly mean standard. The direct discharge permit also exceeded the instantaneous maximum EC standard during the March – June seasonal period. The projected receiving water EC concentration was calculated at 1,579 uS/cm, exceeding the irrigation season instantaneous maximum standard of 1,500 uS/cm.

SAR: Background monthly mean SAR values ranged from 1.5 in January to 3.0 in October. The October SAR value of 3.0 equals the Montana irrigation season monthly mean SAR standard. The instantaneous maximum SAR ratios in the background data ranged from 2.4 to 3.8, never exceeding the Montana instantaneous maximum SAR standard.

An exceedance of the instantaneous SAR standard was observed with the direct discharge permit. In March – June the projected receiving water quality SAR was calculated at 7.4, exceeding the Montana irrigation season standard of 4.5 (table 2, column 18).

All exceedances of Montana EC and SAR standards were observed for the proposed direct discharge permit during the months of the March – June irrigation season. Over this period the draft direct discharge permit is authorized to discharge up to 8.13 cfs (3,650 gpm) of CBNG water above the existing permitted discharge of 3.56 cfs (1,600 gpm), equaling a total discharge of 11.69 cfs (5,250 gpm). As stated above, our analysis found that if authorized this increased direct discharge of CBNG water to the Tongue River would cause or contribute to exceedances of both the monthly mean or instantaneous maximum EC and/or SAR standards in the lower section of the Tongue River at the Miles City station.

An additional analysis was performed by adjusting the mass balance equation to solve for the effluent flow rate, holding the projected receiving water quality equal to the appropriate water quality standard. Comparing all EC and SAR exceedance events, the March – June SAR exceedances were found to be the most restrictive with regards to effluent flow. The monthly mean EC exceedance in April and the instantaneous max EC exceedance in the March – June seasonal 1Q10 period resulted in a restricted flow of 3.5 cfs (1,571 gpm) and 4.01 cfs (1,800 gpm). The exceedance of the instantaneous maximum SAR standard observed in the March – June seasonal period resulted in a restricted flow rate of 1.75 cfs (785 gpm). This analysis indicates that reducing the volume of flow of untreated CBNG wastewater to 1.75 cfs (785 gpm), above the existing 3.56 cfs (1,600 gpm) for a total flow rate of 5.31 cfs (2,383 gpm), during the months of March – June the proposed permit would not cause or contribute to violation of the EC and SAR standards in the lower section of the Tongue River at Miles City.

Based on the above analysis in order to minimize the potential of causing or contributing to exceedances of water quality standards in accordance to ARM 17.30.637(2), the permit has been modified limiting effluent flows during March through June to 5.31 cfs. Based on the analysis, restricting effluent flows to

this level during this period would minimize exceedances of EC or SAR standards. The final permit limit will be changed to reflect this altered flow rate.

12. Comment: Several commenters question the use of concentration-based limits in-lieu of mass based load allocation for the discharge. (1,12,13,19,53)

Response: ARM 17.30.1345 requires that all permit limits be expressed in terms of mass except for pollutants such as pH, temperature and radiation which cannot be expressed in terms of mass, or when applicable standards and limitations are expressed in terms of other units of measurement. Limits for electrical conductivity, sodium adsorption ratio, and pH cannot be expressed in terms of mass. The permit limits the instantaneous discharge volume, because of this, limits expressed as concentration effectively controls the mass of pollutant discharged.

To control the affect of the pollutant on the receiving water, mass based load limits will not be established. However, a point source TMDL (Appendix V), has been developed and will be submitted to the EPA for approval.

13. Comment: Commenter stated the draft permit fails to include effluent limitations to protect aquatic life. Additional comments were made concerning WET monitoring within the mixing zone. Another commenter stated that sampling 1 of 15 outfalls for Wet testing is not adequate, and why outfall 004 was specified for WET testing. Another commenter stated quarterly monitoring was excessive with no permit language for reduction in testing.
(12,19, 53)

Response: The permit requires that, *There shall be no acute toxicity in the effluent.* Under Part I(C) of the permit, acute toxicity is to be tested on a quarterly basis. Testing will employ two species per quarter, and will consist of five effluent concentrations and a control.

In prescribing a no acute toxicity limitation, no toxicity is allowed in the mixing zone. WET testing using a dilution series will effectively represent any synergistic affect that may be present in the mixing zone; therefore additional WET monitoring in the mixing zone is unwarranted.

During the permit development, WET sampling and analysis results were evaluated as to sample frequency and location. Currently outfall 004 is the only outfall with a monitoring history and was retained as a monitoring location.

Based on comments received, two additional quarterly WET sampling and analysis will be required. For outfalls 001 through 011 and 014(except 004) one quarterly WET test will be required. The outfall sampled during the monitoring quarter will be selected on a rotational basis. For outfalls 012, 013, and 016, one outfall will be sampled and tested quarterly on a rotational basis. Outfall 004 will be sampled and tested quarterly.

If no toxicity is observed in one year of testing, the Department will allow for a reduction in the protocol in testing. Once this requirement is met, the permittee can reduce the number of species used in each sampling period from two to one, but alternation between the two. Language will be inserted in the permit stating:

If no acute toxicity is observed for four consecutive calendar quarters, testing may be reduced to alternating one species quarterly testing.

In the FS it incorrectly states the testing species. The following language will be inserted as a footnote in Table 4 note (6), *Daphnia magna*, EPA Method 2012.0 will be replaced with *Ceriodaphnia dubia*, EPA Method 2002.0 or most current method.

14. Comment: Commenters state, the permit will allow degradation to the receiving water without an authorization issued under §75-5-303(3) MCA. (12,14,20)

Response: DEQ disagrees that the permit will allow degradation. Under 75-5-103(5) MCA, the term degradation does not include changes in water quality determined to be "nonsignificant" under 75-5-301(5)(c) MCA. The board of Environmental Review has adopted rules implementing 75-5-301(5)(c) MCA, which establishes criteria that are used by the DEQ for determining when a discharge is "nonsignificant". See ARM 17.30.715.

DEQ has applied the criteria to the discharge authorized by the permit and has determined that the discharge is nonsignificant. Therefore, the discharge does not need to be authorized under 75-5-303 MCA.

15. Comment: Commenter states the Department's implementation of the EC and SAR standards are unconstitutional. (12)

Response: The Board of Environmental Review has adopted water quality standards and nondegradation requirements for these constituents [ARM 17.30.670]. The constitutionality of the rule is beyond the scope of the MPDES permit.

16. Comment: Several commenters expressed that monitoring requirements (effluent, instream and biological) contained in the permit are excessive and exceed the intent of the MPDES permit system. Other commenters expressed concern that internal monitoring and flow measurement should be required. (1,12,13,19,53)

Response: In establishing monitoring frequencies the Department must consider a number of factors, including type of treatment system, compliance history, cost of monitoring, presence or absence of batch releases and other factors. Electrical conductivity (EC) can be measured on-site and is therefore relatively inexpensive compared to other parameters. It can be used as a surrogate for other parameters and process control purposes and therefore was monitored more frequently. SAR requires laboratory analyses of several parameters (sodium, calcium and magnesium). The treatment process involves internal batch process, however, treated water from the IX unit will report to a neutralization basin (Permit Application). This basin will provide pH neutralization of treated produced water prior to discharge.

The draft permit contains extensive monitoring of both the effluent and Tongue River conditions. All outfalls are required to be monitored and sampled for the parameters listed in Table 4, Two other outfalls can be determined by the permittee for supplemental effluent monitoring. Supplemental monitoring requires an extensive listing of parameters to provide additional characterization of the effluent. Additional characterization will be achieved by requiring the operator to submit analysis of individual coal seams under the ROD for each plan of development.

Upstream monitoring is necessary to adjust wasteload allocation in future permit actions if other sources in the basin have adverse impacts on water quality. Down stream monitoring is required to determine the net effect of the discharge on the receiving water and influences from Wyoming.

The permit requires monitoring of periphyton communities in order to ensure compliance with Montana's Nondegradation criteria. The commenter recommends that macroinvertebrate monitoring be included as a condition of the permit. Impacts to the macroinvertebrate community were not identified in the analysis as an area of concern. The permit requires whole effluent testing (WET) of the effluent and receiving water on a salt sensitive invertebrate and fish species that will provide additional information on the impact to aquatic life.

Flow monitoring from the facility has been required on a continuous basis (FS, Table 4, and Part I.C. Monitoring Requirements in the draft permit) with continuous readings.

17. Comment: Commenter states the Department should have required the instream and nutrient monitoring plans and made them available for public comment. (12)

Response: The permit (Part VIII and Part I(D)(2)) requires monitoring plans be developed according to Department standard operational procedures. The permittee is to submit for review, plans to ensure compliance with the permit conditions.. The Department's SOPs do not change from permit to permit.

18. Comment: Commenter states that a mixing zone can only be granted, "[if] the discharger has implemented all available technology-based control and treatment requirements". Additional comments state the MZ is too restrictive and another states that the MZ is not defined. (12,19,21)

Response: The commenter's assertion that all technology based treatment controls must be implemented prior to granting a mixing zone is true. The intent of the regulation at 40 CFR 125.3(e) prohibits the dilution of effluent as a treatment option under technology based effluent limitation guidelines. This rule has been incorporated by reference in ARM 17.30.1340(10). However, in the permit development, water quality based effluent limitations and nondegradation criteria were used to develop limits for the permits. See comment #11 for the discussion on the use of WQBEL in the absence of technology based, effluent limitation guidelines. With the use of WQBEL, mixing zones are allowed and prudent to consider.

Additional comments were received stating the mixing zones granted are too restrictive. The applicant has requested that the entire design flow (7Q10) of the stream be used to develop permit effluent limits for some parameters (Ammonia, fluoride, EC/TDS SAR and Temperature). In order for the Department to allocate the entire design flow of the receiving water body, the mixing zone must be considered nearly instantaneous [ARM 17.30.502(7)]. A nearly instantaneous mixing zone may be granted when there is an effluent diffuser that extends across the entire stream or the discharger demonstrates in accordance with a study plan approved by the department that there is less than 10% variation of the receiving waters within two river widths. The applicant has submitted a study plan designed to meet these criteria and has analyzed the outfalls using approved models. Pursuant to ARM 17.30.516(1) standard mixing zones were granted with the intent of the statute § 75-5-301(4) MCA, to be the smallest practicable size, minimum practicable effect on water use and to have definable boundaries.

19. Comment: A number of commenters questioned the past permit's compliance status in terms of violations of permitted limitations. (39,46,53)

Response: As stated in the Fact Sheet the permittee has been issued two notices of violations for illicit discharges. In January 2001, the Department was notified that an unauthorized discharge to Squirrel Creek due to a contractor error, and in March 2004 an air relief valve froze. Upon thawing produced water flowed from the facility into Young's Creek.

The permittee has been issued a notice of violation (8/2001) for ten exceedances of the numeric limitation for TSS. The MPDES permit limits TSS to 30mg/l for a 30-day average. The exceedances occurred from June 2000 to February 2001. Reported TSS concentrations ranged from 37 mg/l to 142 mg/l. Review of data from the receiving water shows the natural variation of TSS ranges from 1mg/l to 352 mg/l. The permittee implemented changes to well completion techniques to eliminate this effect. No additional exceedances have been noted since the well completion techniques were changed.

The permittee has also been issued notices of violations relating to whole effluent toxicity. In July 2003 the permittee failed to submit results from their annual WET testing for calendar year 2002. And in September 2003 an acute test failed show greater than 50% mortality. Subsequent retest passed. The permittee conducted a TRE/TIE with no known toxics identified.

One commenter stated that there have been flow, EC, and SAR violations under the existing permit. The commenter statement is not correct. The flow-based restrictions in the existing permit have never been exceeded. Nor has the discharge caused standards violations for EC or SAR to be exceeded in the receiving water at the point of discharge.

20. Comment: Commenter states that the pH standards should be reconciled between the FS and the Permit. (18)

Response: The pH values will be changed in the permit to reflect B-2 water use classification of 6.5-9.0 su.

21. Comment: Commenter states the limitation against the addition of other waste streams needs to be included in the permit. (18)

Response: The narrative limitation will be added to the permit: The effluent is composed entirely of produced water from CBNG development; no sewage, industrial, or other wastes may be discharged from the collection system.

22. Comment: Commenter expresses that if reasonable potential is shown for Total Nitrogen, permit limits or WLA should be developed. (18)

Response: Nutrients, including total nitrogen and phosphorus are present in the effluent at levels that may affect plant growth. Since this response is difficult to predict, especially at lower levels, the Department has required that the permittee conduct biological monitoring of the receiving water for the term of the permit.

Nutrient increases that exceed the trigger level are nonsignificant if the increase does not have a measurable change in community composition or cause a change in aquatic life or ecological integrity (ARM 17.30.715(g)). To determine if the ecological integrity is affected, biological monitoring will be required.

23. Comment: Commenter states the permit is not flow based as defined in ARM 17.30.670. (19)

Response: ARM 17.30.670 requires the Department to evaluate compliance with water quality standards to be determined by using a flow-based analysis that considers a range of flows or monthly flow probability. By utilizing the USGS seasonal 7Q10 flow probabilities the Department satisfies the criteria

of "a range of flows" criteria, but it also satisfies ARM 17.30.715, ARM, 17.30.635, and ARM 17.30.516 to utilize the 7Q10 of the receiving water to determine permit requirements.

The applicant proposed a daily flow scenario what would allow adding or subtracting flows, based on daily instream conditions. The Department determined the proposed process too cumbersome to ensure compliance with permit conditions, but, by utilizing the seasonal 7Q10 established by the USGS, a range of flows were taken into account, while still fulfilling the mandate for using 7Q10s to determine design flow.

24. Comment: Commenter states that the comment raised in the public hearing to suspend permitting activities until the Board of Environmental Review acts upon rule making is illegitimate and has no regulatory or technical basis. Additional comments state the permits should be set aside until acted upon by the board. (12,19,21,28,30,33)

Response: State and federal regulations list the specific causes for which a permit issued under the National Pollutant Discharge Elimination System (NPDES) may be terminated or denied [ARM 17.30.1363 and 40 CFR 122.64]. In summary these 'causes' are: 1) noncompliance with a permit condition; 2) the permittee's failure to fully disclose relevant information or misrepresentation of facts; 3) endangerment of human health or environment; and, 4) elimination of the condition regulated by the permit.

The Department has a statutory responsibility to issue or deny permits in a timely manner. Setting aside permits for actions outside the scope of regulatory oversight does not constitute "cause".

25. Comment: Commenter states that including secondary drinking water MCLs for TDS, iron, and manganese is not included by rule. The commenter states that WQB-7 references secondary drinking water MCLs "may be considered as guidance". To this end, the commenter requests "TDS be removed as a constituent with reasonable potential to exceed standards". (19)

Response: On page two of WQB-7 it states " Narrative standards including alkalinity, chloride, hardness, sediment, sulfate, total dissolved solids, and nitrates…". As stated in ARM 17.30.715(g) changes in the quality of water for any parameter for which there are only narrative water quality standards and will not have a measurable effect on existing or anticipated uses..".

In the Notice of Amendment, Adoption, and Repeal of Rules, Board of Environmental Review, issued January 4, 1999, amendment of rules 17.30.602, 17.30.622 through 17.30.629, 7.30.701…, the Board stated, "It is the Department's intent to apply the current standards to those waters which are classified as suitable for drinking water through the application of narrative standards. The current practice, is to use best available information when interpreting narrative standards, including the use of secondary maximum contaminate levels."

In developing permit limitations and conditions, the Department did use the best available information to protect all the current and anticipated beneficial uses of the receiving water, including as a drinking water supply. While the Department recognizes the receiving water has a natural variation that exceeds SMCLs for TDS, by prescribing a WLA for TDS, further decline in quality will not occur.

26. Comment: Commenter stated TSS is missing from effluent monitoring Table 4. (19)

Response: Monthly monitoring for total suspended solids will be included. Table 4 in the FS and Effluent Monitoring Requirements in the draft permit, will be modified to include TSS at a monthly frequency.

27. Comment: Commenter makes reference to the current permit language that allows for additional outfalls to be added to the permit. Commenter requests this language be added to the draft permit. (19)

Response: This language has been removed from the permit. The permittee may request modification to the permit for additional outfalls. The Department will need to evaluate the request and follow the administrative rules governing this type of permit modification.

28. Comment: Commenter states that baseline data used in the permit development is not representative of true baseline conditions. Commenters stated that chemical specific and biological baseline water quality data has never been established. (9,20, 22,31,34,41,53,59)

Response: DEQ disagrees that there is insufficient baseline data to issue the permit. There is extensive water quality data that has been collected in the Tongue River watershed since 1975 for a majority of the parameters of concern. There is also ongoing data collection and information collected from numerous sampling sites on the basin and coal bed methane wells in the watershed, including the monitoring data obtained by DEQ from Fidelity. The data is sufficient to support the assumption that issuing the permit will not cause violations of Montana's water quality standards and nondegradation requirements in the Tongue River.

As a precautionary measure to ensure that DEQ's assumptions and information are correct, DEQ is requiring extensive monitoring for numerous parameters that are identified in Tables 4 through 6 in the FS. In the event DEQ's assumptions are proven incorrect for one or more of the monitored parameters, the DEQ will re-open the permit to specify a WQBEL for the parameter based upon the on-going data collection at the site.

Based upon the above, DEQ believes it is reasonable to issue the permit on the assumption that no water quality impacts or degradation will occur. If the data indicates that there is a potential impact, the permit will be re-opened to address the problem.

29. Comment: Commenter states, " Any increase in discharges may further degrade the Tongue River…". Commenter expresses that any further degradation could negatively impact the beneficial use of the Tongue River water for irrigation. (22)

Response: In June of 2003 the Board of Environmental Review adopted regulations concerning the development of permit conditions and standards for surface water protection from CBNG discharges. Included in these rules [ARM 17.30.670 (7)] the board required "the department shall determine effluent or compliance limits by using a flow based analysis that considers a range of flows or monthly flow probability." In the application received by the Department, was a flow based operational scenario that would allow for a daily flow determination based on receiving water flows. The Department chose to develop a more conservative approach in permitting in which seasonal USGS 7Q10s were used to develop permit conditions.

Also contained in ARM 17.30.670 (2)&(3) are standards developed by the department and approved by the board to protect beneficial uses, explicitly for irrigation. The board even went to lengths to develop standards for electrical conductivity and sodium adsorption ratios for the irrigation and non-irrigation

seasons. The standards adopted by the board are at levels protective of the most salt sensitive vegetation grown in the area. Standards were developed as a maximum level that would not affect these species of plants.

30. Comment: Commenter questions why two applications were received and subsequently why two permits were developed for the same project. (21)

Response: There is a substantial difference in the treatment and discharge of the waters the permittee produces. There is no statutory or regulatory requirement to combine applications by the same applicant. Because of the fundamental differences between the two discharges, treated versus untreated waste, the Department believes that issuing two separate permits is acceptable.

31. Comment: Commenter states: Outfalls 001-016 consist of a discharge of untreated produced wastewater from CBNG development. The NCEPD Water Quality Department recommends to the tribe to not support any discharge of untreated produced water into the receiving water. Additional comments state: the amount of discharge from the outfalls far exceed what the tribe seeks to prevent degradation of the Tongue River. (21,23,49,55,57)

Response: Section 518 of the federal Clean Water Act grants EPA authority to treat Indian Tribes as States for the purposes of establishing water quality standards. The tribe has adopted water quality standards and these standards have been submitted to EPA for review and approval. At this time, EPA has not approved the Northern Cheyenne water quality standards and nondegradation criteria. Consequently, the tribes standards and nondegradation criteria are not recognized under the CWA as legally enforceable.

The Department has conducted supplemental analysis assessing the impacts of the proposed discharge on tribal water quality standards, including nondegradation provisions. The results of this analysis indicate that the proposed tribal water quality standards will be met at the southern boundary of the reservation. The analysis also concluded that nondegradation criteria would not be met in some months. See the administrative file for: Monthly Mean Electrical Conductivity (EC), and Monthly Mean SAR; Tongue River at Birney Day School Bridge, Birney MT.

32. Comment: Commenter states the permit does not limit EC or SAR during the irrigation season. (21)

Response: During the permit development, the analysis showed there was no potential to exceed nondegradation criteria for these parameters (SAR at 3.0, and ECs at 1000 µS/cm). If the potential to exceed nondegradation criteria is not triggered, limits are not required.

33. Comment: Commenter stated numerous requests for information pertaining to the permit issuance and compliance. (23)

Response: The state of Montana has an open records policy. Any or all correspondence including violation letters, to the permittee is available to the public upon request. However the MDEQ cannot commit in advance to providing this information to outside parties as it occurs. The Water Protection Bureau staff will make every effort to keep other state and federal agencies informed as to any violation of this permit. In addition to this direct line of communication the MDEQ enters all violations, including single event, permit exceedances, and inspection violations directly into the EPA's permit compliance system (PCS) database. This information is available to agencies through PCS and to the public through the Environmental and Compliance History Online (ECHO).

The Department's files are open to the public, and are available for review Monday through Friday, between 8:00 am and 5:00 pm.

34. Comment: The commenter states they have first right to any and all excess water produced in the Tongue River basin. (23)

Response: The allocation of water rights is outside of the regulatory authority of the WQA and MPDES program.

35. Comment: Commenter questions the rationale for permit language pertaining to a TRE/TIE. Commenter states that, "The very presence of toxic pollutants should indicate the potential for irreparable harm to human life and environment. Redeveloping compliance plans and adjusting numerical limitations to control toxicity may enable the continuance of having toxic pollutants present. "

Commenter states the permits should be invalidated until all stakeholders are notified and informed. (23)

Response: This language does not imply there is toxicity in the effluent. This standard language allows for additional identification and reduction of toxics that may become present. The purpose of WET testing is to identify any synergistic interaction between the effluent and receiving water that may become toxic to aquatic species.

The permit contains numeric effluent limits for all constituents that may exceed the applicable water quality standards.

36. Comment: The commenter made numerous comments concerning permit boilerplate standard language. (23)

Response: When the State of Montana was granted primacy in administering the NPDES permit system, the Department incorporated a standard set of permit conditions as stated in 40 CFR 122. These conditions establish the recording, reporting, and compliance aspects for the administration of these permits. These conditions have been incorporated by reference into rule in ARM 17.30.1344.

37. Comment: Commenter states, "NPDES permit issuance does not preclude 401 Certification. The waver of 401 certification under the MPDES permitting system does not allow for adequate checks and balances for proper permitting". (23)

Response: The commenter incorrectly states the intent of the 401-certification process. Under section 401 of the CWA, any application for a federal license or permit to conduct activities that may discharge to navigable water, must provide the licensing agency with a certification from the state in which the discharge occurs. This certification is necessary for activities that are not regulated under an MPDES permit [ARM 17.30.105(2)].

38. Comment: The commenter, "…requests that MDEQ base any allocation of available assimilative capacity caused by issuance of discharge permit for CBNG produced water in the Tongue River watershed on an equitable process". "This would preclude an inequitable percentage of available assimilative capacity for EC and SAR being allocated to one CBNG operator on the Tongue River drainage." (25)

Response: Permits and any applicable waste load allocation are issued on a first-come basis, contingent on available assimilative capacity. See response to comment #12, #29, and #44.

39. Comment: The commenter states, "The current aquatic chronic criterion of 5 ug/l selenium is not adequate for preventing adverse effects on fish and aquatic birds." The commenter states that a CCC of 2 ug/l should be used to be protective. The commenter also states that several methods used in analysis should be avoided due to elevated detection limits and poor precision affects. (26)

Response: The Board of Environmental Review is required to set standards for priority pollutants, and other pollutants which have the potential to affect beneficial uses of state waters. All standards for pollutants are listed in WQB-7 [ARM 17.30.624(2)(f)]. At this time the most stringent aquatic life standard for selenium is set at 5 ug/l. In the reasonable potential calculation 15% of this value or 0.75 ug/l was used to determine significance.

In accordance with 40 CFR 122.41(j)(4) and 122.4(i)(4), the permit requires that samples be analyzed in accordance with test procedures approved under on 40 CFR 136. There are currently five approved methods for the analysis of selenium in this regulation. The permittee may select any one of these methods that can achieve the minimum level specified in the permit.

40. Comment: In review of the wasteload allocations (WLA) calculations performed and documentation included in the proposed permits, it is unclear how these permits protect Wyoming Water Quality Standards, including protection of irrigation activities. Considering the pollutant load that can be attributed to these outfalls, the potential impacts these discharges may have on the State of Wyoming should be considered in more depth. WLA calculations should be performed for constituents such as iron, total barium, chlorides, dissolved sodium, dissolved calcium, total aluminum, and dissolved magnesium. These calculations should be compared to Wyoming Water Quality Standards to provide demonstration of protection of the state's standards. (27)

Response: Additional analysis was undertaken to assess the impacts of the proposed discharge on Wyoming water quality standards. This analysis is based on a standard mass balance calculation to predict the resulting instream concentration in the River after discharge. Because the permit incorporates a flow-based approach to standards, in accordance with the recently adopted Montana standards, the analysis was conducted at each of 3 different flow conditions in the receiving water. This approach results in permit limits on the volume of produced water that can be discharged in each of these flow tiers while maintaining compliance with the instream standard. For purposes of this analysis, the Department assumed that the entire discharge volume authorized in the permit was discharged from the 12 outfalls above the Wyoming border. The results of this analysis are given in Table 1 (attached) and are compared to the applicable Wyoming standard. Because Wyoming uses narrative standards for the protection of irrigation use, for comparative purposes, Table 1 uses the Montana standards for EC and SAR as numeric expressions of the Wyoming narrative standards. We assume that because the Montana standards were adopted to protect the most sensitive irrigation uses in the basin, this analysis demonstrates that these uses would not be adversely impacted.

To limit the potential magnitude of these increases, the Department proposes to include flow limits on the upper river, to protect 50% of the instream assimilative capacity. Should discharge flows exceed the assimilative capacity, additional flow restrictions would be implemented. At this time only one seasonal period exceeds the 50% assimilative capacity. Fidelity will be limited to discharging 1000 gpm during July through October, to the upper river without exceeding this criterion. The results of this analysis are

shown in the last column in Table 1 *Tongue River Water Quality Assessment Upstream the Wyoming Border*.

With the reduction in discharge flows during the March through June period to 2375 gpm this seasonal period no longer exceeds the 50% assimilative capacity criterion.

41. Comment: It is also requested that the permit include in-stream monitoring for SAR and specific conductance (SC) at the border as the Tongue River re-enters Wyoming. This in-stream monitoring will help to ensure that Wyoming Water Quality Standards are protected. (27)

Response: The Department agrees that additional in-stream monitoring below this group of outfalls and above the Wyoming border will be beneficial to identify point and nonpoint source loads in the vicinity of the state line. The proposed permit will be modified to require weekly monitoring for SC and monthly monitoring for SAR.

42. Comment: Numeric Effluent Limits - The proposed permit establishes numeric limits for total suspended solids, oil and grease, pH and flow. However, there are no numeric effluent limits established in the permit for parameters of concerns such as SAR and SC. The permit appears to be controlling the quality of the produced water discharged by limiting the volume of produced water that can be discharged to the river. It is unclear how this permitting technique can account for potential alteration in the quality of the produced water over the life of the project. Clarification related to the rationale for not incorporating numeric effluent limits for SAR and SC and a further demonstration that Wyoming water quality standards are protected should be provided. (27)

Response: The permit places numeric limits on several conventional pollutants and restricts the total discharge volume but does not set numeric limits for all parameters of concern. The Department believes that this is a reasonable approach at this time and is protective of both Montana and Wyoming water quality standards for several reasons. First, the permit is not issued for the life of the project as implied in the comment. MPDES permits are only issued for a 5-year term. Water quality is continually monitored and reassessed at permit renewal and also contains reopener provision if standards are exceeded. The discharge authorized in this permit is for Fidelity's operation in the CX field. To date, effluent quality has remained relatively constant within this geographical area and within the three targeted coal seams in the CX field. The Department recognizes that this argument can not be applied to the Powder River Basin in general.

Second, the statement of basis evaluated reasonable potential to exceed nondegradation based water quality standards for over twenty different parameters, such as ammonia, fluoride, nutrients, temperature and other toxic constituents. By restricting the volume of the effluent to the most limiting parameter, such as ammonia or temperature, the Department is reserving assimilative capacity in the river until all issues dealing with load and waste load allocations can be resolved. Finally, the permit includes ambient monitoring, above and below the discharges. If this monitoring indicates that EC or SAR standards are exceeded, the permittee is required to take certain actions, including ceasing the discharge.

43. Comment: On page 10 of the permit, two outfall flow classifications are identified for the purpose of collecting supplemental effluent monitoring. However, outfall 010 is identified twice in the "0-150 gpm Classification" and Outfall 009 and 011 are not included in either of the classifications. (27)

Response: All three of the cited outfalls, 009, 010 and 011 are in the 0-150 gpm classification. This correction has been made in the proposed permit.

44. Comment: Appendix V - For March through June calculations, the Receiving Water SAR concentration is different in each permit (1 mg/L v. 0.54 mg/L) although the sample location is the same. Considering that the Receiving Water values for each permit appear to be based upon identical USGS Monitoring data and that all of the values are identical for other parameters listed in the table, it appears that these values should be the same. (27)

Response: In MPDES permit MT0030457 the values were formatted to the incorrect decimal places. The formatting has been corrected. No change is necessary due to the fact that the excel spreadsheet calculates a result based on the actual values and not the formatted value.

Comments received at the Public Hearing in Colstrip MT

45. Comment: Comments were received by individuals questioning the role or purpose of a permit in various ways. (29,37,39,40,41,42,45,46,48,49,50,53,56,59,61,63)

Response: These comments indicate varying degrees of knowledge of the permitting process, how standards are developed and how they are implemented. State and federal regulations set forth criteria for which a permit issued under the Montana Pollutant Discharge Elimination System (MPDES) may be terminated or denied [ARM 17.30.1363 and 40 CFR 122.64]. The Department has the obligation to either issue or deny permit applications based on cause. Should all the conditions applicable to the proposed discharge meet the statute and rule, the Department is required to issue a permit. Under the MPDES permit program, there are two mechanisms in place to limit pollutants discharged to state waters. They are classified as technology based or water quality based. During the permit development both are evaluated and the most stringent limitation applied to the discharge permit.

Technology based limits enact a reduction in pollutant concentration based on a level of treatment. Varying levels of treatment make up the technology limitations, conversely the higher the level of treatment the greater reduction in pollutant concentrations. The level of treatment required is based on the date the technology limit was established or the application date for permit coverage. In the absence of technology-based limits, water quality based limits apply.

The Department, to limit priority pollutants to levels that are safe for human health, aquatic life, and to protect beneficial uses, has developed water quality standards. Utilizing standards, a reasonable potential determination is made. If the pollutant level in the receiving water after mixing, is greater than the water quality standard, it is defined as having reasonable potential to exceed standards. Once a pollutant is defined to have reasonable potential, MPDES permit limits are developed based on the receiving water quality to maintain all current or anticipated beneficial uses. Water quality standards cannot be exceeded in the receiving water except in limited situations when a mixing zone is granted.

Contained in the permit are additional conditions the permittee must adhere to. The permittee must monitor the discharge for the pollutants, as required by the Department and must report the monitoring results. Additional permit language allows for the permit to be reopened and modified, if, in the case the permittee is not adhering to the limitations required in the permit.

46. Comment: Several commenters question why produced water cannot be beneficially reused. The commenters expressed that if the WQ is sufficient for other uses (livestock watering), “allow them to use the water”. Others question why past beneficial uses are not being maintained.

Other commenters question industrial reuse of the water and the effectiveness of managed irrigation. (9,12,14,32,33,35,36,37,45,47,48,51,52,55)

Response: CBNG water that is not discharged to state surface waters as a waste may be beneficially used, but a water use permit from DNRC must be obtained prior to putting the water to a beneficial use. The DEQ disagrees that past beneficial uses of the Tongue River are not being protected. The water quality standards adopted by the board have been approved by the US EPA as protective of all beneficial uses of water.

47. Comment: Commenter brought forward current monitoring efforts in place to evaluate ambient WQ in the Tongue River and soil sites in the watershed. Data from this monitoring will document changes in water of soil chemistry as development occurs. (34,41)

Response: The Department recognizes the current monitoring activities, and is an active participant in the process. Results from the monitoring activities will confirm influences from permitted actions and aid in the evaluation whether beneficial uses are being maintained.

48. Comment: Commenter misrepresented the public comment/ public hearing requirements for all MPDES permits issued. (46)

Response: The Department is required by rule to provide a public notice, and allow for a public comment period for all actions listed under ARM 17.30.1372. The public notice for this action included the scheduling and locations for public hearing to solicit local input in the permitting process. All significant comments received during the hearings and public comment period will be responded to.

49. Comment: Comments were received concerning the safety of drinking water supplies from the development of CBNG. (54)

Response: Criteria used to determine reasonable potential and for the development of permit limits, reflect human health and secondary maximum concentration level, drinking water standards. In the development of the permit, using these standards protect the beneficial uses, including uses as a drinking water supply. Review of the public water supply sources shows no withdrawals from the Tongue River for drinking water from the WY crossing to the mouth at Miles City.

50. Comment: Comment was received requesting the Department to set aside the permits until the Treatment as State determination is made by the EPA concerning the Northern Cheyenne water quality standards and permitting program. (57)

Response: State and federal regulations list the specific causes for which a permit issued under the National Pollutant Discharge Elimination System (NPDES) may be terminated or denied [ARM 17.30.1363 and 40 CFR 122.64]. In summary these ‘causes’ are: 1) noncompliance with a permit condition; 2) the permittee’s failure to fully disclose relevant information or misrepresentation of facts; 3) endangerment of human health or environment; and, 4) elimination of the condition regulated by the permit.

The Department has a statutory responsibility to issue or deny permits in a timely manner. Setting aside permits for actions outside the scope of regulatory oversight does not constitute “cause”.

Comments concerning the Environmental Assessment

51. Comment: Commenters states that tiering the EA into the FEIS is unlawful. (9,12,14,20,21,23)

Response: The EA analysis tiers to and incorporates by reference the information and analysis contained in the: *Montana Statewide Oil and Gas Final Environmental Impact Statement and Amendment of the Powder River and Billings RMP's* (MTFEIS) approved by the MT BO&GC, and DEQ, and the federal BLM. In addition, the EA tiers to and incorporates by reference the information and analysis contained in the EAs for individual plans of developments for the CX Ranch, Badger Hills, Dry Creek and Coal Creek APDs. These EAs have been developed pursuant to the MOU between the BLM, DNRC, BO&GC and the DEQ, and have been approved by each participating agency. The validity of these documents has been contested for federal actions at the federal level, but not for state actions on the district level. It is the Department opinion that these documents are valid in determining state actions at this time.

52. Comment: Commenter states that the project description contained in the EA was inadequate for the public to understand the scope of the project. (9,14)

Response: The Department believes the project described in the EA was adequate. The Department refers to, and makes available all documents related to the permit action in the public notice and posts them on the Department's web site.

53. Comment: Commenter states that any additional discharge of produced water will impact soils and deposit salts. Other commenters state that soil erosion will increase due to produced water discharge. (9,23)

Response: Refer to response #28. The permit complies with all standards adopted by the board to protect future and existing uses including irrigation. Any increase in soil erosion resulting from the discharge will be negligible. Discharges are limited to outfalls at the river or through diffusers in the river. No overland flow will occur prior to discharge to the river.

The permittee is also required to apply for and receive authorization under the Storm Water General Discharge Permit for Construction Activities should concurrent disturbances exceed one acre. The authorization requires best management practices be installed to limit the transport of sediment from the project site.

54. Comment: Commenter states that salts will load in the reservoir and be flushed downstream in the irrigation season. Another commenter stated that development will draw down the reservoir level. Additional comments were received stating erosion will significantly impact wetland plant species. (9,12,23)

Response: Commenter inserts "impacts" for "uses" as stated in the EA. The argument stating, "downstream impacts would not be diminished", is substantiality different than what the EA states, "downstream uses will not be diminished". It is unclear what conclusions the commenter is trying to draw.

Commenter states the salt load in the river "may as much as triple". See response # 28 for standards discussion.

Commenter states the salts will store in the reservoir and be flushed out during the irrigation season. In the cumulative impact analysis monthly water quality of the Tongue River system was analyzed. In this analysis, salts (assumed to mean salinity or EC) were evaluated at worst-case conditions. Salts (EC) loads were carried through the watershed and evaluated at each reach. All point source loads were inputted and non-point source influences (based on historic conditions) were allowed. The analysis looked at each reach and compared instream conditions to standards applicable to the reach. Results from the analysis show for all sources discharging to the Tongue River and reservoir, standards will not be exceeded in any reach or at the last point analyzed (Birney).

55. Comment: Commenter states that cumulative impacts modeled in the EA were not disclosed. Other commenters state that the department must look at all discharges and evaluate to the impact the Tongue River and reservoir. Additional comments questioned long term cumulative impact from CBNG development. (9,21,28,50,53,54)

Response: Refer to response #51. As presented in Attachment 2 of the EA the cumulative impact analysis narrative lays out the rationale and methodologies used to model the impacts from this state action. Contained in the 24 pages of text, graphs, and spreadsheets is the cumulative analysis of all input to the Tongue River system that are known, including: Fidelity's proposed actions, Decker Coal mines, Spring Creek Coal, and Powder River Gas LLC influences.

Currently the Department is monitoring assimilative capacity and instream conditions on a routine basis. If, in the event instream conditions warrant, the Department will reopen permits to modify limits and conditions to maintain water quality standards and beneficial uses.

56. Comment: Commenter states that the department failed to protect water quality in the past when the instream flow dropped below 7Q10. Commenter asked for assurances for the department to act in future incidences. (9)

Response: During the permit development process the Department is required to look at worse case conditions to develop permit conditions. To analyze worse case conditions in the receiving water the rule requires the 7Q10 or comparable flow rate to be used. Should the instream conditions drop below the 7Q10 the conservativeness built in the standards and permit limitations are anticipated to protect the receiving water. Most low flow events do not last longer than a week. These events occur very infrequently, less than once every ten years.

During the cumulative impact analysis, it was discovered that during low flow events, the possibility exists for instream conditions to exceed the water quality standard for EC. If instream conditions exceed standards for EC, language inserted into the permit MT0030457 will kick in for increased monitoring. The permittee will be required to monitor EC on a daily basis below their discharge points, and reduce flows or eliminate flows, should the instantaneous maximum EC for the monitoring period be exceeded.

57. Comment: Commenter states the EA fails to disclose the area to be disturbed by the permit actions. Other comments were received stating culturally significant wetland species have been ignored in the analysis. Four other commenters made generic reference to cultural aspects of vegetation in the area. (9,23,38,40,50,52)

Response: The scope of the analysis for this EA was limited to the approved PODs in the CX Field. The level of disturbance for this permit action has been analyzed by the BLM, BOGC, and the DEQ. By evaluating the EA in this fashion, there is redundancy built into the analysis. The FEIS, concluded on a

regional level the impacts to the whole basin, where as the impacts for the individual PODs were looked at for each APD. The main scope of this EA is to evaluate the impacts from the discharge on the receiving water.

For surface disturbances, no new disturbance is allowed that is outside the areas analyzed in the APDs. The only exception will be for the installation of diffusers in the channel. Permitting for the placement of these outfall diffusers will be via the Army Corps of Engineers, Conservation Districts, and DEQ. The physical outfalls being placed in the river channel will minimize impacts to wetlands and other culturally important species. Vegetation in the riparian areas will not be affected by the discharges.

Commenter referencers the FEIS and states 66457 acres will be disturbed. The scope of this action; CX Ranch, Badger Hills, Dry Creek, and Coal Creek the total acres disturbed is 508.27, with 318.48 being short term disturbances. Due to the fact the POD were a phased development, the total acres disturbed would be even less. The time frame from the CX Ranch to the Coal Creek POD exceeds five years; concurrent reclamation has minimized any cumulative affects from disturbed areas.

As contained in the FEIS the BLM incorporated NC mitigation measures to allow for consultation with the tribe to protect areas identified as plant gathering sites (Northern Cheyenne Mitigation Appendix). The operators will conduct plant inventories, with mitigation measures enacted to protect the impacted areas.

58. Comment: Commenter states that in the EA, minimal impacts to aquatic life is unsupported. Additional comments were received stating the EA fails to consider the indirect impacts on aquatic life and fisheries including potential revenue loss from local businesses. (9,12)

Response: All standards are developed with an acute and chronic component. Chronic impacts are the long-term issues the commenter states have not been addressed. During the development of these permits, the most stringent WQ standard was used for determining the nondegradation criteria.

With concurrent monitoring by the permittee and the Inter-agency working groups (States of MT and WY, BLM, USGS, and NC Tribe), that include surface water and biological monitoring, the regulatory agency's will not be ignorant of changing conditions in the basin.

Indirect impacts to the river and downstream riparian areas have been influenced in a greater degree by the drought and flow-regulation from the reservoir.

59. Comment: Commenter states there would be no loss of economic revenue to the state if the department would require effluent limitation and technology controls. Commenter states the permits would become unnecessary because technology would prevent direct discharges with out decreasing profits of state revenue. Another commenter expressed that if CBNG is not allowed to proceed, the state, local and individual lease holders would have an immediate and irretrievable loss of revenue. (9, 14,32)

Response: See response to Comment #12. In developing permit limitations, the Department looked at the net affect to the receiving water at the point of discharge and prescribed limits to protect it. It is the responsibility of the permit holder to meet these limits. In this case, the level of treatment the applicant proposed meets the criteria for limitations set in the permit.

60. Comment: The commenter states there would be a taking of private property due to dumping salts into the receiving water and then using this water to irrigate soils. Commenter states the soils would become unusable and will at a minimum reduce the productivity of all privately irrigated property.

Two other commenters stated that allowing the discharge would constitute a taking of their water rights in the Tongue River reservoir. (9,46,49)

Response: Refer to response to Comments #28 and #40. Permits are written to properly adopt standards that are protective of beneficial uses. Further, state and federal regulations list the specific causes for which a permit issued under the National Pollutant Discharge Elimination System (NPDES) may be terminated or denied [ARM 17.30.1363 and 40 CFR 122.64]. In summary these 'causes' are: 1) noncompliance with a permit condition; 2) the permittee's failure to fully disclose relevant information or misrepresentation of facts; 3) endangerment of human health or environment; and, 4) elimination of the condition regulated by the permit. According to the rules cited above, the Tribe's claim of first right to the discharged CBNG water is not a "cause" for denying issuance of the permit.

61. Comment: Commenter states the EA draws unsubstantiated conclusions on water quality and the potential impacts to aquatic life and food availability to other species. The commenter adds that failure to conduct monitoring and studies of aquatic life violates the Montana constitution and companion regulations. (9)

Response: Refer to response to comments #8 and # 25. The commenter is incorrect in the assertion that the permit fails to prescribe monitoring or aquatic life analysis. The permit requires extensive monitoring for chemical specific pollutants, whole effluent toxicity, in addition to biological monitoring in the Tongue River.

62. Comment: Commenter states the EA fails to mention critical spawning areas for walleye, sager, small mouth bass, and other species of the Tongue River. Commenter adds that the trout fisheries above/below the dam have not been considered nor the impacts analyzed. (9)

Response: The permit has been developed according to the water use classification of the upper Tongue River; which is a B-2 water. B-2 waters are to be maintained for marginal propagation of salmonid species and associated aquatic life (ARM 17.30.624(1)). To maintain the water quality of this receiving water, a conservative approach was taken. The Department determined that early life stages were present year around in the receiving water.

All of the species the commenter identified, walleye, sager, small mouth bass are warm water species for which the fishery is not managed. Trout on the other hand, are salmonid species for which the water use classification is protective.

63 Comment: Commenter states the department failed to consider a reasonable range of alternatives. Commenter states that the department needs to considerer reinjection, or requiring other technologies to treat all the wastewater prior to discharge. Another commenter questions why were other alternatives not considered? If so, what were they and why were they not addressed in the EA? If not, why not? (12,14)

Response: Refer to response to comment #12. The level of analysis undertaken by the Department reflects the understanding of the significance of impacts on the environment. The Department is confident that no significant impacts will result due to the proposed mitigations required in the individual PODs. Since the scope of this action is for PODs already approved, no additional analysis is required.

The Department has determined that the proposed level of control is sufficient for the applicant to adhere to limitations required in the discharge permit. With no significant impacts identified in this action an alternatives analysis is unnecessary. Further, the agency would not have the authority to require alternatives if the requirements of the Water Quality Act are being met. In addition, contained in the FEIS, alternative B analyzed reinjection and concluded (pg2-11): "Due to the high cost of injection and the uncertain success in deposing of all produced waters over the life of a group of CBM wells, injection has not yet been shown to be commercially viable for the CBM industry in the PRB."

64. Comment: Commenter states the EA fails to discuss the impacts of existing development of methane migration up wells and other natural features or the dangers such migration poses to people living and working near methane development. (12)

Response: By tiering this EA to the MTFEIS and individual POD EAs, methane mitigation was evaluated. The scope of this EA for permit actions was to evaluate the significance on impacts to the environment by the discharge of produced water. Additional methane mitigation is outside the scope of this permit action.

65. Comment: Commenter states: "The EA needs to estimate reclamation costs and evaluate whether Powder River Gas's performance bond is adequate to cover such costs." (12)

Response: The Water Quality Act does not address reclamation of CBNG developed lands. The Board of Oil and Gas and BLM statutes address reclamation. Reclamation costs have been evaluated in the MTFEIS and individual PODs EAs.

66. Comment: Commenter States: "The proposed Tongue River Railroad will pass near the proposed project, yet the EA fails to mention the railroad or its impacts; it also fails to discuss the cumulative impacts on air quality, wildlife, surface water quality or aquatic life." (12)

Response: Given the uncertainty that has surrounded the TRR project, which has been under consideration for 20 years, it was not judged to be reasonably foreseeable. CBNG exploration can proceed in the subject project area independent of plans for the TRR. Should the TRR project progress; the EIS analysis of the TRR would be expected to include consideration of CBNG activities in the area as part of its cumulative impact analysis.

67. Comment: Commenter states that the description of methane development in Wyoming is inadequate. Commenter states "the EA admits that existing CBNG development in Wyoming has degraded the Tongue River at the state line." (12)

Response: To allow for protection of the receiving waters several activities have been undertaken. First, an interagency working group that consists of the states of Montana and Wyoming, the BLM field offices in both states, FWP agencies, USGS agencies, FS agencies, NPS, and affected tribes has been organized. This group monitors and coordinates CBNG activities in the PRB. Secondly, this group advises, coordinates, and evaluates water quality data generated by state and federal agencies. Thirdly, the Department requires the permittee to monitor instream conditions. And lastly, there is reopener language in the permits. This permit language allows for the permits to be reopened and limits re-established should the receiving water quality change substantially.

The citation quoted by the commenter "it is not anticipated that CBNG development in Wyoming will combine with the proposed action to create impacts to surface waters.", cannot be verified in any of the documents: EA, SOB/Fact sheets, draft permits or joint EAs cited and used in this action. The commenter states "the EA admits that existing CBNG[sic] development in Wyoming has degraded the Tongue River at the state line", is not stated or inferred in the EA or any companion document.

The commenter is incorrect in his assertion that no direct discharge permits are issue to the Tongue River in Wyoming. There are two active, direct discharge permits issued in Wyoming. One to Goose Creek, a major tributary of the Tongue and the other is directly to the Tongue. On Prairie Dog Creek there are three permits, two permits for impoundment that allow for discharges resulting from storm events and one permit for discharge of treated produced water.

68. Comment: Commenter questions the assimilative capacity of the existing PSD Class II increment for air emissions. Commenter states that additional compressor stations, in addition to the Tongue River Railroad will have a cumulate impact on the air quality in the area.

Other commenters state that because the FEIS inadequately addresses the issue of air quality it is inappropriate to tier the air quality analysis in the EA on the FEIS.

Additional comments were received stating that cumulative impacts will result from CBNG development to the Class I air shed over the Northern Cheyenne reservation.(12,14,23)

Response: Refer to comments #48 and#63. For the purpose of this action, only PODs approved by the BLM, BOGC and DEQ have been included. In the EAs for these PODs, analysis of each PODs contribution and a cumulative analysis have been undertaken. The DEQ has issued air quality permits to the operator, when required, that limit the total load of pollutant that can be discharged to the airshed. Additional analysis for this action is not required.

69. Comment: Commenter states the EA fails to discuss impacts of existing methane development in Montana on local sage grouse populations and leks. Commenter goes on to state the EA fails to describe active or inactive leks and cumulative impacts by future development. (12)

Response: Affects to sage grouse habitat and leks were analyzed in all joint EAs for the approved PODs. Each POD is required to have a wildlife monitoring and protection plan developed and approved in accordance with the CBNG programmatic wildlife and protection plan pursuant to criteria in the MT FEIS. A review of the joint EAs and additional information submitted through coal mining monitoring activities, show one inactive lek impacted by an impoundment located on private surface. Mitigation measures include avoidance and limiting activity during the nesting period.

70. Comment: Commenter states the discussion on aesthetics is inappropriate and misrepresenting the actual impact of CBNG[sic] development. Commenter states there is little development in the area, and any development would be an enormous impact. (14)

Response: The Department disagrees that there is a significant impact to aesthetics in the area. From actual observations in the area, visual impacts from CBNG development are minor. Mitigation measures required through the MT FEIS and individual POD, joint EAs have minimized the impacts to a nonsignificant level. No further analysis is required.

71. Comment: Commenter states that a full environmental impact statement is required for the permit. Commenter thinks that the impacts are so significant that a EA is inadequate under any circumstances. (20)

Response: The Department does not agree. All impacts identified in the MT FEIS and POD EAs have been mitigated to nonsignificant levels.

72. Comment: Commenter states : " The action may potentially impact the wetland plant species that are culturally important to the Northern Cheyenne tribe. Another commenter states: "If the proposed development continues we face the possibility of losing part of our cultural heritage."

Additional comments were received concerning the cultural importance of water and loss of historic sites due to development. (23,24,37,38,55,58,60,62,63)

Response: Through the federal trust responsibility, the BLM has implemented mitigation measures for the preservation of culturally important species that may be present within the PODs areas. These mitigation measures include: plant inventories for the areas disturbed, consultation with the tribe, avoidance of areas known to be ceremonial or plant gathering locations, and allowing tribal representation during construction activities on federal surface ownership.

73. Comment: Commenter stated: " There's one specie, I can't remember the name of it now,…which is an endangered specie." Commenter was referring to specie of grasshopper located south of Ashland. (59)

Response: In all of the documents associated with CBNG development in the PRB in Montana no reference has been made concerning any grasshopper species that is listed as endangered or threatened. Searches of the NRIS database has not identified any grasshopper species as being listed as having special status or being threatened or endangered. Searches of the regional FWS web sites (the agency tasked with managing the endangered species act) have failed to identify this species also.

74. Comment: Commenter stated that an ethnographic study is required to let the NC define their own culture and culturally important areas. (60)

Response: Three ethnographic studies have been conducted in the area, focusing on the traditional cultural values of the Crow and Northern Cheyenne tribes. Under the federal trust responsibility, the BLM has implemented mitigation measures to protect culturally important norms and sites. Should the tribe wish to pursue another ethnographic study they may do so at their convenience.

Table 1. Tongue River Water Quality Assessment Upstream the Wyoming Border
Seasonal Evaluation of Proposed Permit MT0030457

March - June 7Q10 Flow		Effluent Flow 5250 (gpm) [1]			Wyoming			Effluent Flow Restriction 3250 (gpm)
Parameter	Receiving Water Quality 2004 - Present	Effluent Quality [2]	Projected Receiving Water Concentration	Water Quality Standard	Non-degradation Criteria	Exceeds WQS	Projected Receiving Water Concentration
Flow (cfs)	91.00	11.70	102.70				98.24
TDS (mg/L)	365.05	1266.00	468.03				431.70
Specific Conductance (uS/cm)	574.86	1964.00	737.06	1000	Narrative	N	679.85
Ca (mg/L)	56.33	4.80	50.44		Narrative		52.51
Mg (mg/L)	33.16	1.60	29.55		Narrative		30.82
Na (mg/L)	19.54	496.00	74.00		Narrative		54.78
SAR	0.51	50.08	2.05	3	Narrative	N	1.5
Cl (mg/L)	4.58	20.10	6.35	230.00	46.00	N	
Fe (mg/L)	0.02 [3]	0.1 [4]	0.03	1.00	0.20	N	
Ba (mg/L), total recoverable	0.05	0.50	0.10	1.80	0.36	N	
Al (mg/L), total recoverable	0.05	0.10	0.06	0.75	0.15	N	

July - October 7Q10 Flow		Effluent Flow 1600 (gpm) [1]			Wyoming			Effluent Flow Restriction 1000 (gpm)
Parameter	Receiving Water Quality 2004 - Present	Effluent Quality [2]	Projected Receiving Water Concentration	Water Quality Standard	Non-degradation Criteria	Exceeds WQS	Projected Receiving Water Concentration
Flow (cfs)	31.00	3.56	34.56				33.23
TDS (mg/L)	465.54	1266.00	547.54				518.84
Specific Conductance (uS/cm)	733.11	1964.00	862.27	1000	Narrative	N	817.07
Ca (mg/L)	57.62	4.80	52.20		Narrative		54.10
Mg (mg/L)	42.52	1.60	38.33		Narrative		39.80
Na (mg/L)	24.24	496.00	72.56		Narrative		55.65
SAR	0.59	50.08	1.86	3	Narrative	N	1.4
Cl (mg/L)	6.34	20.10	7.75	230.00	46.00	N	
Fe (mg/L)	0.02 [3]	0.1 [4]	0.03	1.00	0.20	N	
Ba (mg/L), total recoverable	0.05	0.50	0.10	1.80	0.36	N	
Al (mg/L), total recoverable	0.03	0.10	0.03	0.75	0.15	N	

November - February 7Q10 Flow		Effluent Flow 2500 (gpm) [1]			Wyoming			Effluent Flow Restriction 2500 (gpm)
Parameter	Receiving Water Quality 2004 - Present	Effluent Quality [2]	Projected Receiving Water Concentration	Water Quality Standard	Non-degradation Criteria	Exceeds WQS	Projected Receiving Water Concentration
Flow (cfs)	69.00	5.57	74.57				74.57
TDS (mg/L)	388.59	1266.00	454.14				454.14
Specific Conductance (uS/cm)	611.93	1964.00	715.18	1500	Narrative	N	715.18
Ca (mg/L)	56.80	4.80	52.91		Narrative		52.91
Mg (mg/L)	35.35	1.60	32.82		Narrative		32.82
Na (mg/L)	20.65	496.00	56.16		Narrative		56.16
SAR	0.53	50.08	1.49	5	Narrative	N	1.49
Cl (mg/L)	4.98	20.10	6.11	230.00	46.00	N	
Fe (mg/L)	0.02 [3]	0.1 [4]	0.03	1.00	0.20	N	
Ba (mg/L), total recoverable	0.05	0.50	0.08	1.80	0.36	N	
Al (mg/L), total recoverable	0.04	0.10	0.05	0.75	0.15	N	

[1] MT0030457 Seasonal Effluent Flow Limitations
[2] Effluent Chemistry Based on Median Value
[3] Fe Receiving Water Chemistry Based on Median Value
[4] Fe Effluent Chemistry Based on Median Values from Exploratory Wells